

DOW CORNING® 510 Fluid

FEATURES

- Clear, heat stable silicone fluid
- Remains pourable at very low temperatures
- Low viscosity of 50 mm²/s
- Relatively flat viscosity-temperature slope
- Highly resistant to permanent shear breakdown
- Retains excellent dielectric properties over a wide range of temperatures and frequencies
- Water repellent and resistant to the effects of most gases, salts, dilute alkalis, and acids
- Soluble in most aliphatic, aromatic, and chlorinated solvents and insoluble in water and most alcohols and glycols
- Serviceable from -57°C up to 200°C

Polyphenylmethyldimethylsiloxane

APPLICATIONS

- Base oil in low temperature silicone greases.
- Lubricant for plastic bearings used at low temperatures.
- Fluid for liquid coupling.
- Damping fluid for instruments and devices.
- Heat transfer fluid in oil baths.
- Pressure transfer in remote thermostats.

TYPICAL PROPERTIES

Specification writers: These values are not intended for use in preparing specifications. Please contact your local Dow Corning sales representative prior to writing specifications on this product.

Parameter	Unit	Value
Physical properties		
Colour APHA		20
Specific gravity at 25°C/15.6°C		0.985
Volatility, % loss by weight, 4 hours at 250°C ¹		
Volatility, % loss by weight, 48 hours at 250°C ¹		
Viscosity at +99°C	mm ² /s	14
Viscosity at +38°C	mm ² /s	38
Viscosity at +25°C	mm ² /s	50
Viscosity at -29°C	mm ² /s	275
Viscosity at -48°C	mm ² /s	520
Viscosity at -57°C	mm ² /s	1020
Surface tension at 25°C	mN/m	25
Radiation gelation dosage, megarads		170
Sound velocity at 25°C	m/s	1050
Electrical properties		
Electric strength	kV/mm	13.8
Permittivity at 100Hz		2.77
Permittivity at 1MHz		2.77
Dissipation factor at 100Hz		0.0003
Dissipation factor at 1MHz		0.00005
Volume resistivity	ohm.cm	1x10 ¹⁴

TYPICAL PROPERTIES (continued)

Parameter	Unit	Value
Thermal properties		
Stiffening point	°C	<-57
Thermal gel time - hours at 250°C		240
Coefficient of expansion, 1/K, from 0 to 100°C		0.00096
Thermal conductivity	W/(m.K)	0.15
Spontaneous ignition temperature	°C	482

1. As determined by heating a 35 to 40 gramme sample in a 150 ml beaker having a bottom area of about 20cm² (5cm diameter).

HANDLING PRECAUTIONS

PRODUCT SAFETY INFORMATION REQUIRED FOR SAFE USE IS NOT INCLUDED. BEFORE HANDLING, READ PRODUCT AND SAFETY DATA SHEETS AND CONTAINER LABELS FOR SAFE USE, PHYSICAL AND HEALTH HAZARD INFORMATION. THE SAFETY DATA SHEET IS AVAILABLE FROM YOUR LOCAL DOW CORNING SALES REPRESENTATIVE.

USABLE LIFE AND STORAGE

When stored at or below 60°C in the original unopened containers, this product has a usable life of 60 months from the date of production.

LIMITATIONS

This product is neither tested nor represented as suitable for medical or pharmaceutical uses.

HEALTH AND ENVIRONMENTAL INFORMATION

To support customers in their product safety needs, Dow Corning has an extensive Product Stewardship organization and a team of Health, Environment and Regulatory Affairs specialists available in each area.

For further information, please consult your local Dow Corning representative.

WARRANTY

INFORMATION - PLEASE READ CAREFULLY

The information contained herein is offered in good faith and is believed to be accurate. However, because conditions and methods of use of our products are beyond our control, this information should not be used in substitution for customer's tests to ensure that Dow Corning's products are safe, effective, and fully satisfactory for the intended end use. Dow Corning's sole warranty is that the product will meet the Dow Corning sales specifications in effect at the time of shipment. Your exclusive remedy for breach of such warranty is limited to refund of purchase price or replacement of any product shown to be other than as warranted. Dow Corning specifically disclaims any other express or implied warranty of fitness for a particular purpose or merchantability. Unless Dow Corning provides you with a specific, duly signed endorsement of fitness for use, Dow Corning disclaims liability for any incidental or consequential damages. Suggestions of use shall not be taken as inducements to infringe any patent.